

IN THE CLAIMS

The below listing of claims remains unchanged over Applicants' Response of May 15, 2008.

Claim 1 (Previously Presented): A method of cleaning a heat treatment apparatus including a treatment vessel having therein quartz structures that are exposed to an SiO_2 film deposited by means of TEOS on an object to be processed contained in the treatment vessel, the treatment vessel being capable of forming a vacuum, the method comprising the step of:

cleaning the heat treatment apparatus by supplying a mixed gas of an HF gas and an NH_3 gas into the treatment vessel while restraining damage to quartz material present in the quartz structures during said cleaning by limiting said cleaning to a period of 0.6 minute or less.

Claim 2 (Original): The method of cleaning a heat treatment apparatus according to claim 1, wherein

during the cleaning step, a temperature in the treatment vessel is in a range of from 100°C to 300°C .

Claim 3 (Original): The method of cleaning a heat treatment apparatus according to claim 1 or 2, wherein

during the cleaning step, a pressure in the treatment vessel is equal to or more than 53200 Pa (400 Torr).

Claim 4 (Previously Presented): The method of cleaning a heat treatment apparatus according to claim 1 or 2, wherein

during the cleaning step, a supply amount of the HF gas is equal to or more than a supply amount of the NH_3 gas.

Claim 5 (Previously Presented): A method of cleaning a heat treatment apparatus including a treatment vessel having therein quartz structures that are exposed to an AsSG film deposited by means of TEOS on an object to be processed contained in the treatment vessel, the treatment vessel being capable of forming a vacuum, the method comprising the step of:

cleaning the heat treatment apparatus by supplying a mixed gas of an HF gas and an NH_3 gas into the treatment vessel while restraining damage to quartz material present in the quartz structures during said cleaning by limiting said cleaning to a period of 0.6 minute or less.

Claim 6 (Previously Presented): A method of cleaning a heat treatment apparatus including a treatment vessel having therein quartz structures that are exposed to a deposited BSG film by means of TEOS on an object to be processed contained in the treatment vessel, the treatment vessel being capable of forming a vacuum, the method comprising the step of:

cleaning the heat treatment apparatus by supplying a mixed gas of an HF gas and an NH_3 gas into the treatment vessel while restraining damage to quartz material present in the quartz structures during said cleaning by limiting said cleaning to a period of 0.6 minute or less.

Claim 7 (Previously Presented): The method of cleaning a heat treatment apparatus according to claim 3, wherein

during the cleaning step, a supply amount of the HF gas is equal to or more than a supply amount of the NH_3 gas.